Please amend the application as follows.

In The Specification

Please amend the Specification as follows:

Please substitute the following paragraph in place of the one located from page 5, line 10, through page 6, line 10

Transmitter 12 receives information bits B_i at an input to a channel encoder 13. Channel encoder 13 encodes the information bits B_i in an effort to improve raw bit error rate. Various encoding techniques may be used by channel encoder 13 and as applied to bits B_i, with examples including the use of convolutional code, block code, turbo code, or a combination of any of these codes. The encoded output of channel encoder 13 is coupled to the input of an interleaver 15. Interleaver 15 operates with respect to a block of encoded bits and shuffles the ordering of those bits so that the combination of this operation with the encoding by channel encoder 13 exploits the time diversity of the information. For example, one shuffling technique that may be performed by interleaver 15 is to receive bits in a matrix fashion such that bits are received into a matrix in a row-by-row fashion, and then those bits are output from the matrix to a symbol mapper 16 in a column-by-column fashion. Symbol mapper 16 then converts its input bits to symbols, designated generally as S_i. The converted symbols S_i may take various forms, such as quadrature phase shift keying ("QPSK") symbols, binary phase shift keying ("BPSK") symbols, or quadrature amplitude modulation ("QAM") sybmols. In any event, symbols S_i may represent various information such as user data symbols, as well as pilot symbols and control symbols such as transmit power control ("TPC") symbols and rate information ("RI") symbols. Symbols S_i are coupled to a modulator 18. Modulator 18 modulates each data symbol by combining it with, or multiplying it times, a CDMA spreading sequence which can be a pseudo-noise ("PN") digital signal or PN code or other spreading codes (i.e., it utilizes spread spectrum technology). In any event, the spreading sequence facilitates simultaneous transmission of information over a common channel by assigning each of the transmitted signals a unique code during transmission. Further, this unique code

makes the simultaneously transmitted signals over the same bandwidth distinguishable at receiver 14 (or other receivers). Modulator 18 has two outputs, a first output 18_1 connected to a multiplier 20_1 and a second output 18_2 connected to a multiplier 20_2. Each of multipliers 20_1 and 20_2 multiplies its input times a weight value, W_1 and W_2, respectively, and provides an output to a respective transmit antenna $A12_1$ and $A12_2$. By way of example, assume that transmit antennas $A12_1$ and $A12_2$ are approximately three to four meters apart from one another.

<u>Please substitute the following paragraph in place of the one located from page 10, lines 15 through 17</u>

In view of the above, there arises a need to improve upon the drawbacks of prior art closed loop systems and prior art open loop systems, and such a need is addressed by the preferred embodiments described below.

<u>Please substitute the following paragraph in place of the one located from page 13, lines 5 through 24</u>

Figure 3 illustrates a diagram of a cellular communications system 40 by way of a contemporary example in which the preferred embodiments operate. Within system 40 is shown a base station BST, which includes four antennas AT1 through AT4 along which base station BST may transmit (or receive) CDMA or WCDMA signals. In the preferred embodiment, each antenna in the group of antennas AT1 through AT4 is within approximately three to four meters of another antenna in the group. In other embodiments, however, note that the multiple transmit antennas may be much closer to one another; for example, in an environment where base station BST and user station UST are both indoor stations, the distance between the multiple transmit antennas of base station BST may be on the order of inches. Returning to the example of Figure 1, the general area of intended reach of base station BST defines a corresponding CELL and,

thus, base station BST is intended to generally communicate with other cellular devices within that CELL. Beyond the CELL there may be other cells, each having its own corresponding base station, and indeed there may be some overlap between the illustrated CELL and one ore more other cells adjacent the illustrated CELL. Such overlap is likely to support continuous communications should a mobile communication station move from one cell to another. Further in this regard, system 40 also includes a user station UST, which is shown in connection with a vehicle V to demonstrate that user station UST is mobile. By way of example, user station UST includes a single antenna ATU for both transmitting and receiving cellular communications.

a3

Please substitute the following paragraph in place of the one located from page 24, line 21, through page 26, line 2

a4

As still another example of the present inventive scope, the types of open loop and closed loop transmit diversity also may be changed as applied to the preferred embodiments. Thus, while TxAA has been shown above as a closed loop technique, and STTD has been shown as an open loop technique, one or both of these may be replaced by corresponding alternative techniques and applied to a multiple transmit antenna system, thereby again providing a combined closed loop and open loop transmit antenna system. Indeed, recall above an example is set forth for an inventive system having eight antennas split into sets of four antennas, where open loop transmit diversity is applied within each set of four antennas. In this case, the application of open loop transmit diversity as applied within a set of four antennas will require a type of open loop diversity other than solely the transmission of conjugates; in other words, a use only of conjugates provides two different signals, whereas for four different antennas a corresponding four different signals are required to achieved the open loop diversity. Accordingly, for this as well as other embodiments, a different open loop diversity approach may be implemented. For example, another open loop diversity technique that may be implemented according to the preferred embodiment includes orthogonal transmit diversity ("OTD"), and which is

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shown for a single OTD encoder 70 in Figure 6 and for BPSK symbols. In Figure 6, OTD encoder 70 is coupled to transmit symbols to four antennas $A70_1$ through $A70_4$. Further, in operation, OTD encoder 70 buffers a number of symbols equal to its number of antennas (i.e., four in the example of Figure 6), and then each antenna transmits only one corresponding symbol and that is in a form that is orthogonal to all other symbols transmitted along the other antennas. These forms are shown by way of the output symbols in Figure 6 along antennas $A70_1$ through $A70_4$ from time T' through time $4T'$. Further, for simplicity Figure 6 only illustrates the OTD operation and, thus, does not further show the use of weighting to achieve the combined closed loop diversity. Nonetheless, the addition of a closed loop weighting operation should be readily implemented by one skilled in the art given the preceding teachings with respect to other embodiments. As another example of an alternative open loop diversity that may be used according to the preferred embodiments, Figure 7 illustrates an STTD encoder 80 for four antennas $A80_1$ through $A80_4$. The conventions of Figure 7 should be readily appreciated from the preceding examples, where the signals transmitted along antennas $A80_1$ through $A80_4$ therefore represent open loop diverse signals, and for the example where the symbols are BPSK symbols. Also as in the case of Figure 6, for simplicity Figure 7 only illustrates the open loop diversity operation (i.e., STTD) and, thus, Figure 7 does not further show the use of weighting to achieve the combined closed loop diversity, where such additional weighting may be implemented by one skilled in the art according to the teachings of this document. As still another example of an alternative open loop diversity that may be used according to the preferred embodiments, Figure 8 illustrates time switched time diversity ("TSTD") for four antennas. Lastly, other closed loop diversity techniques that may be used to create still further alternative embodiments include switched diversity.